NINEPIPE NATIONAL WILDLIFE REFUGE

Charlo, Montana

ANNUAL NARRATIVE REPORT

Calendar Year 1997

U.S. Department of the Interior
Fish and Wildlife Service
NATIONAL WILDLIFE REFUGE SYSTEM

REVIEWS AND APPROVALS

NINEPIPE NATIONAL WILDLIFE REFUGE

Charlo, Montana

National Bison Range Complex
Moiese, Montana

ANNUAL NARRATIVE REPORT

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David Wiseman 8/2/99
Refuge Manager Date

Refuge Supervisor Review 11/10/99
Date

Regional Office Approval 11/10/99
Date

INTRODUCTION

Ninepipe National Wildlife Refuge is located on the Flathead Indian Reservation about 5 miles south of Ronan, and 50 miles north of Missoula, Montana. It is a 2,062-acre "easement" waterfowl refuge administered by National Bison Range personnel.

The refuge is located on Trust lands of the Confederated Salish and Kootenai Tribes. Lands within the refuge boundary were first withdrawn for an irrigation reservoir as part of the Flathead Project in 1910. The wildlife refuge was established by Executive Order on the same withdrawal in 1921, subject to reservoir uses at the request of the Tribes. A 1948 Act of Congress reimbursed the Tribes $400,000 for all past and future uses of certain reservation lands for physical works and facilities of the Flathead Project irrigation and power systems, and for wildlife refuges (Ninepipe and Pablo NWR's). The payment included $50,644 for the permanent easement at Ninepipe Refuge.

The 1948 Act also stated that the Tribes "shall have the right to use such Tribal lands, and to grant leases or concessions thereon, for any and all uses not inconsistent with such permanent easement". The phrase "not inconsistent with such permanent easement" has been the subject of considerable controversy, correspondence and negotiation over the years, but FWS has had some influence on management of the refuge for wildlife purposes. The Tribes manage the fishery resources.

The irrigation reservoir contains about 1,672 acres at full pool level. The only FWS influence of water levels comes through cooperation with the BIA Flathead Irrigation Project. In the case of conflicts, wildlife becomes secondary to irrigation due to wording in the 1921 Executive Order. However, the water regime for irrigation has generally benefitted wildlife at Ninepipe. In particular, the refuge has become an important breeding and staging area for a large portion of the Flathead Valley Canada goose population, the Valley's only western grebe colony, a large great blue heron colony, Tundra swans, and a variety of ducks and numerous species of other marsh and water birds.

Approximately 390 upland acres within the refuge are grazed by a Tribal permittee under a rotational grazing system set up under a Memorandum of Understanding among the FWS, BIA, and Tribes. It was up for renewal in 1994 but the Tribes did not sign.

Ninepipe NWR lies in the center of a terminal moraine with a high density of small wetlands and is nearly surrounded by 3,100 acres of a State Game Management Area, approximately 3,000 acres of Tribal lands, 3,060 acres of Federal WPAs and 2,000 acres of FWS conservation easements that prevent housing development and wetland drainage. It is therefore the core of an excellent wildlife complex.

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A. HIGHLIGHTS

A chip truck ran off U.S. Highway 93, and dived cab-deep into a pot-hole wetland a few hundred yards from Ninepipe Reservoir, in October. The truck was on State land. A vacuum truck was used to pump the water-logged chips from the truck, until it was light enough to be pulled out with a tow truck. There was no significant environmental damage. Emergency units from several nearby communities responded to the accident.

Chip truck near Ninepipe Reservoir with emergency personnel. BW 10/97

B. CLIMATIC CONDITIONS

Ninepipe is only 6 air miles from headquarters of the National Bison Range. Details on this year's weather conditions are in the Bison Range Narrative.

C. LAND ACQUISITION

1. Fee Title

Nothing to report.

2. Easements

In recent years the importance of the Flathead Valley of western Montana as an ecosystem critical to many species of wildlife has been recognized. Much of western Montana still retains an undeveloped character, but pressures that have consumed habitat in other parts of the continent are fast degrading this world-class habitat. The primary habitat threat is subdivision for 2- to 20-acre ranchettes. Ranchette development eliminates habitat and leads to fragmentation problems. Protected areas become isolated and disturbed as development surrounds them.

The U.S. Fish and Wildlife Service program seeks to link valuable wildlife areas through the purchase of conservation easements thus creating large blocks of wildlife habitat and corridors out of what could soon become a fragmented and disjunctive system. The purchase of easements is the preferred method of protection because it minimizes costs and keeps the land in private ownership.

The Fish and Wildlife Service started purchasing conservation easements in 1994 with funds provided through the migratory bird fund. To date, most easements were purchased around Waterfowl Production Areas (WPAs) in the Ninepipe area. By the end of 1997, easements were being pursued on lands directly abutting the south end of Ninepipe Refuge.

For more information on easements pursued in 1997, in NW Montana Wetland Management District Narrative.

3. Other

Nothing to report.

D. PLANNING

1. Master Plan

Nothing to report.

2. Management Plan

This plan was initiated the summer of 1996 as the Comprehensive Management Plan for the National Bison Range and all ancillary lands. The name was changed to the Comprehensive Conservation Plan with the passage of the National Wildlife Refuge Improvement Act, October 1997. For more information on this plan, see National Bison Range Annual Narrative 1997, Planning, Section D-1.

3. Public Participation

See National Bison Range Annual Narrative 1997, Planning, Section D-1.

4. Compliance with Environmental and Cultural Resource Mandates

A draft Environmental Assessment for establishing a Land and Water Conservation Fund (LWCF) project, "Mission Valley Wildlife Management Area", was prepared and will go out for public review in January 1998. This management area would surround Ninepipe Refuge and allow for purchase of conservation easements or fee acquisition of up to 13,000 acres using LWCF.

5. Research and Investigations

Ninepipe NR-87 - Nest Success of Upland Nesting Ducks in Relation to Predator Removal - Montana Cooperative Wildlife Research Unit, Missoula, Montana

Nest searches were conducted on 788 acres of managed cover in the skunk removal area in 1997. Nest searches were conducted 3 times during the year. Four to six field workers were employed to conduct nest searches and trap skunks.

Mayfield nest success was 8.4% for all ducks with 118 nests found, 6.4% for mallards with 32 nests found. The densities of nests found per acre for all ducks was 0.15 and 0.04 for mallards.

Nest searches from 1986 to 1997 were conducted as part of a long-term study analyzing the effects of skunk removal on nest success. Skunks were trapped and removed from the area from 1989 to 1994. In 1995-1997, skunks were marked and released. Before skunk removal (1986-1988), Mayfield success of *all ducks* averaged 21.3% in the Ninepipe and 22.5% in the Pablo area. During skunk removal (1989-1994), duck nest success was far higher in the Ninepipe area (50.5%) relative to the

Pablo area (21.4%). After skunk removal (1995-1997), duck nest success was again similar in the Ninepipe (9.0%) and Pablo (9.0%).

Long-term Study of an Undisturbed Cormorant Colony

Great blue herons established nesting at Ninepipe NWR in 1970. Double-crested cormorants began nesting in this heronry in 1974. They have been monitored for nest success, arboreal behavior, fishing sites, nest stratification and effects on vegetation since the inception of the colony. Arboreal nests are on islands stretching over 1.5 miles along the west side of the reservoir. However, observed behaviors and continuous use of the available substrate indicate this is one biological colony. Adults range out to other sites, up to 30 miles distant, to forage. This reserves fish resources near nests for newly fledged young. Marcella Bishop did not conduct this study in 1997, however volunteer Linda Schure did count nests and young of cormorants and herons. See Wildlife, Section G-4.

Biological Control of Purple Loosetrife, *Lythrum salicaria*, by the leaf-feeding beetle, *Galerucella calmariensis* on the Ninepipe National Wildlife Refuge - Rachel Sykes

A wetland area on the north edge of Ninepipe has been reserved for the establishment of biocontrol agents and has not been sprayed for the last five years. Within this forty acres (of which approximately five acres are wetlands) one hundred *Galerucella calmariensis* were released at the end of May 1993. Field observations this year provide evidence that *Galerucella calmariensis* will be an effective agent for control of *Lythrum salicaria*. For more information see, Habitat Management, Pest Control, Section F-10.

Owl Research Institute, Inc. - Denver W. Holt, Missoula, Montana

Observations have been made on long-eared owls for a number of years. The owls were banded and data regarding habitat selection, breeding biology, migration, molt, hormones, diet, and mating system.

Monitoring of small mammals was done at both Ninepipe and Pablo NWR.

Collection and analyzation on Ring-billed and California Gull pellets to determine diet, in response to concerns of the gulls eating waterfowl and other bird species eggs, has been done. Data shows they mostly eat voles, but insects, and worms are important also. Few bird eggs or nestlings were found.

6. Other

Nothing to report.

E. ADMINISTRATION

1. Personnel

Ninepipe NWR is administered from the National Bison Range. Administrative information appears in the Bison Range Narrative.

2. Youth Programs

The National Bison Range offers work opportunities for youth through the Youth Conservation Program (YCC), and the Montana Human Resource Program. On Ninepipe in 1997, the YCC youth cut and piled brush.

3. Manpower Programs

Nothing to report.

4. Volunteer Program

This is the 4th year for volunteers Charles and Shirley Keller. They arrived on May 23 and volunteered at total of 400 hours until their departure on June 27. They spent numerous hours at Ninepipe including running the roadside birding bird survey route six times and assisting with brood and pair counts.

A local volunteer, Linda Schure, gave 70 hours assisting in nesting observations including counting gull nests and looking for tern nests. Linda Schure was assisted on several occasions by Tracy Shutt, a National Bison Range volunteer.

The two trailer pads at Ninepipe, constructed in 1994, have been used by several volunteers for the last 2 years. Along with the Keller's, the pads were utilized this year by three other couples who volunteered at the National Bison Range.

A major project in the valley has been control of the exotic plant purple loosestrife (Lythrum salicaria). Neal and Patty Brown of the Flathead Audubon Chapter again worked with Bill West in the annual volunteer hand digging control project on adjacent State lands. This helps buffer the refuge from loosestrife invasion.

The National Audubon Society held their Flathead Valley Christmas Bird Count on December 22. The area covered is a circle 15 miles in diameter, centered on Ninepipe NWR and encompassing the Lake County WPA's and the northeast corner of the National Bison Range.

5. Funding

Nothing to report.

6. Safety

Nothing to report.

7. Technical Assistance

Lynn Clark, biological technician, met with Ben Adams of the Flathead Irrigation Project to coordinate the filling and draw down of the Reservoir to best benefit target species of migratory birds under the demands of spring run-off and irrigation needs.

Recommendations were made to fill the Reservoir as early in the spring as possible and try to maintain a constant level until mid-July. The water should be drawn down only if necessary after July to maintain brood security. If run-off is heavy or late, it was recommended to raise the Reservoir before late May, then maintain this level.

8. Other

Nothing to report.

F. HABITAT MANAGEMENT

1. General

Management at Ninepipe requires close coordination with the Confederated Salish and Kootenai Tribes (CS&KT), who own the land, and the BIA Flathead Irrigation Project (FIP), who control water levels in the reservoir.

Month-end water levels 1997

Month	Water Storage (Acre/feet)
January	5412
February	6016
March	9227
April	11381
May	13606
June	15832
July	12694
August	7825
September	6224
October	7421
November	8118
December	7087

2. Wetlands

Water levels at Ninepipe Reservoir are maintained to maximize nesting of waterfowl, grebes, and terns, but are subject to run-off and irrigation needs. Bison Range staff work closely with the Flathead Irrigation Project personnel to coordinate the filling and drawdown of the reservoir.

The Flathead Irrigation Project filled as much of the reservoir as possible prior to March 31. More water was added in mid-April. Run-off hadn't started yet but the project needed to catch as much water as possible until May 19 to prevent the necessity of adding water in June or July. The reservoir remained high throughout the summer.

3. Forests

Nothing to report.

4. Croplands

Nothing to report.

5. Grasslands

The refuge supports 390 acres of uplands in a narrow band around the reservoir. This area is dominated by introduced cool-season grasses, but there are some areas where native grasses are recovering. Good summer moisture meant most of the plants in the area grew well, including noxious weeds such as whitetop, Canada thistle, and sulphur cinquefoil.

6. Other Habitats

Dense nesting cover was planted on two islands constructed by Ducks Unlimited in 1987. The wild rose and snowberry plots planted in 1988 are well established and no cultivation has been required on them since 1990. No nest checks were completed in 1997 on these islands.

7. Grazing

Assistant Manger Bill West called Dennis Clairmont and Bob Rosenbaum to discuss grazing at Ninepipe and Pablo NWRs in March. Mr. Rosenbaum was told to use grazing unit #1 and #1A, however, he expressed his concerns about the poor fence on unit #1A. When the grass was gone on unit #1 he moved to unit # 4. Refuge Manager Wiseman expressed concern that this was not consistent with the purpose of the Refuge (incompatible) and is pursing compliance standards for cooperation between the Tribe and the Service.

NBR staff received comments and photos from Pheasants Forever members complaining about grazing on Ninepipe that they believe damages habitat and wildlife viewing opportunities. .

These photos taken by Pheasant Forever members show cattle grazing along the Interpretive Trail and damage to Caragana trees at Ninepipe NWR. 1997

8. Haying

Nothing to report.

9. Fire Management

Nothing to report

10. Pest Control

During January, West assisted the Lake County Purple Loosestrife group in preparing grant funding applications to cover the next four years of the program in this county. Requested funds were $160,000. During the past nine years, over $300,000 has been obtained by sources outside the FWS to control all known loosestrife in the Valley.

West met with Allen Wood, Montana Fish, Wildlife, and Parks and the Lake County Weed Board to coordinate purple loosestrife grant expenditures.

West wrote a purple loosestrife report for the Wildlife Mitigation Trust Fund. He also worked on planning a loosestrife tour with Lake County Weed Board which was completed July 31.

During August, purple loosestrife was sprayed, pulled and biocontrol checked. An article on loosestrife biocontrol in the Mission Valley appeared in a local paper.

In the summer of 1997, biological technician Rachel Sykes did biological control work on purple loosestrife. Her work, Biological control of *Lythrum salicaria* by the leaf-feeding beetle, *Galerucella calmariensis* on the Ninepipe National Wildlife Refuge, is available for review at the National Bison Range office.

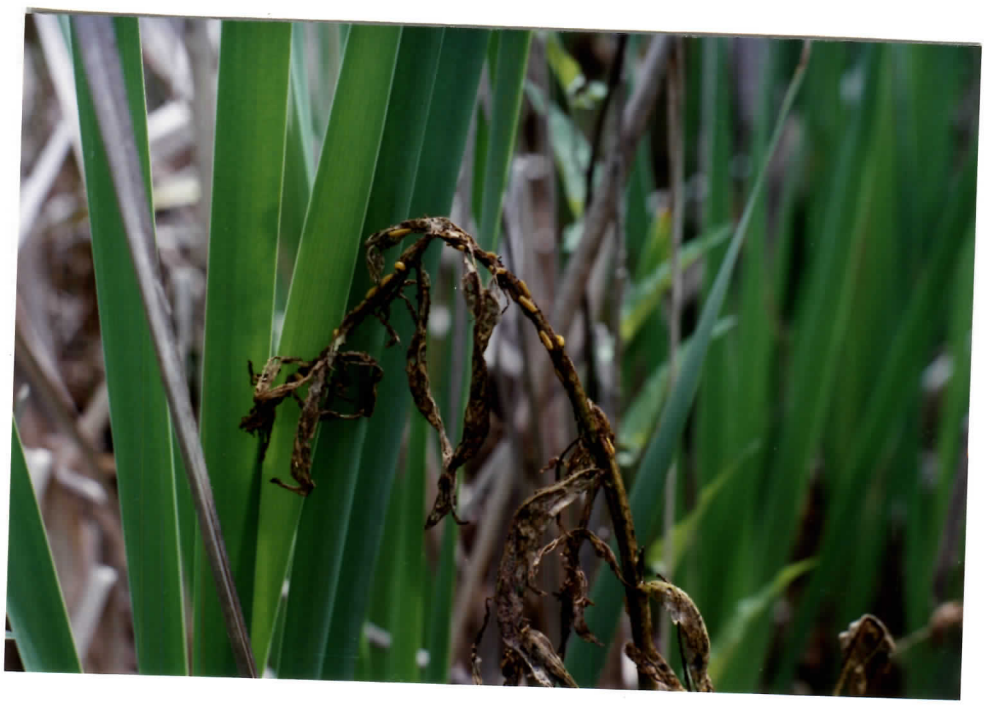
A wetland area on the north edge of Ninepipe has been reserved for the establishment of biocontrol agents and has not been sprayed for the last five years. Within this forty acres (of which approximately five acres are wetlands) one hundred *Galerucella calmariensis* were released at the end of May 1993. After the 1993 release a project was developed to monitor the insect's establishment and distribution, and to determine the impact of *Galerucella* feeding on *Lythrum* growth and spread. This project was continued through the following four summers. Control of loosestrife within 50 yards of the release site was extensive and very damaging to the plants. It appeared as if a fire had moved through the marsh and only loosestrife burned up.

The observation of the five summers, by bio-tech Rachel Sykes, showed that *Galerucella calmariensis* has survived its initial release (and the more difficult, ensuing winters) and continues to increase in population density and size (likely at an exponential rate until the supply of *Lythrum* begins to limit its growth, or some other regulator dominates). Beetles are spreading rather gradually, but assuredly, through

the wetland and have become established at distances 1/8-1/4 mile from the original release site. The impact these insects have upon the weed's long-term vigor is somewhat difficult to determine. Primary problems arise in obtaining a representative control group without introducing new variables (i.e., tents or cages which create shade, etc.) Nonetheless, differences in the final heights, inflorescence numbers, and inflorescence lengths between the control group and the experimental plants are significant by a paired t-test. Transects and procedures have been implemented at strategic locations within the study site, and two years of data show promising potential for long-term control of *Lythrum* by *Galerucella.*

Overall, field control of *Lythrum salicaria* at Ninepipe NWR and at 160 other sites with similar characteristics in the Mission Valley continued to be by spraying Rodeo herbicide with 3 visits per season to each site.

Yellow *Galerucella* larvae
6/97 RS



Galerucella larvae
Medium to heavy feeding
6/97 RS

Heavy *Galerucella* feeding "It appeared as if a fire had moved through the marsh." 6/97 RS

11. Water Rights

Nothing to report.

12. Wilderness and Special Areas

Nothing to report.

13. WPA Easement Monitoring

Nothing to report.

G. WILDLIFE

1. Wildlife Diversity

Ninepipe National Wildlife Refuge supports a variety of waterfowl, marsh and water birds. Common nesters include: Canada goose, mallard, gadwall, cinnamon, blue-winged, and green-winged teal, redhead, northern shoveler, double-crested cormorant, great blue heron, western and red-necked grebes. There are several active great-horned owl nests. Caspian, forester's, and black terns also nest when conditions allow. There was very little shorebird nesting this year due to high water levels. Ninepipe Reservoir is also an important layover area during spring and fall migration.

White-tailed deer are occasionally seen on the uplands. Grizzly bears have occasionally crossed Highway 93 to feed at Ninepipe.

2. Endangered and Threatened Species

A grizzly bear was spotted near Ninepipe in October. There was another report of a grizzly, sow and cub, sighted near the east end of the refuge on September 27, 1997.

A total of 28 bald eagles were counted on the Audubon Christmas Bird Count in December. Also observed were 2 northern goshawks.

An immature trumpeter swan was seen in the Mission Valley during the spring and is thought to have spent some time at Ninepipe.

3. Waterfowl

Ducks

The pair count was conducted on May 22 with 225 pairs counted. Duck production estimates were based on three calculations: 1) an 8.4% hen success derived from ongoing nesting studies by the Montana Cooperative Wildlife Research Unit on lands adjacent to the Refuge, 2) an average brood size of 4.5 from 34 broods tallied in the Ninepipe brood sample, 3) and estimated 70% survival of young from sample count to flight stage. Estimated production was down due to a 15% decrease in pairs and a decrease in hen success from 14% to 8%. Possible explanation for the dramatic decrease in number of pairs are: the early high water that made it difficult to count pairs in flooded grasslands, and a decrease in production over the last two years. Possible explanations for the decrease in survival are the discontinuation of skunk trapping in the Ninepipe area, the low vole population (alternate prey source) and the increase of foxes around the Ninepipe area.

TABLE 1. 1997 Duck Production
Ninepipe
(pairs X .08 production X 4.5 brood size X .7 brood survival production)

SPECIES	NUMBER OF BREEDING PAIRS	PRODUCTION
Ruddy Duck	1	0
Gadwall	35	9
American Wigeon	10	2
Northern Shoveler	20	5
Lesser Scaup	3	1
Pintail	0	0
Redhead	40	10
Cinnamon Teal	7	2
Green-winged Teal	6	1
Blue-winged Teal	0	0
Ringneck Duck	1	0
Common Goldeneye	0	0
Barrows Goldeneye	0	0
Wood Duck	0	0
Bufflehead	2	0
Unknown	2	0
Mallard	98	25
Canvasback	0	0
TOTAL	225	57

Duck banding is done in cooperation with the Montana Cooperative Wildlife Research Unit, Montana Department of Fish, Wildlife and Parks, and the Confederated Salish and Kootenai Tribes. Over 1500 ducks were banded on WPAs surrounding Ninepipe. A complete report of the duck banding efforts is located in the Northwest Montana Management District 1997 Narrative.

Volunteers Charles and Shirley Keller ran the survey route they established in 1995 a total of six times this year. The results of the ducks surveyed can be found in Table 2. This is not a complete count of the ducks using Ninepipe on the given days, but an index of the ducks seen along the survey route.

Table 2. 1997 Ninepipe survey

Species	May 24	May 31	June 6	June 16	June 22	June 24
Wood Duck		6	8	12	10	20
Bufflehead	1					
Mallard	8	16	16	5	35	60
Northern Pintail				4	1	
Blue-winged Teal	2					
Cinnamon Teal	6	2	6	4	2	
Northern Shoveler	6	5	6	6	20	6
Gadwall	4	5	8	14	10	14
American Wigeon	4	5	2	18	2	26
Canvasback						6
Redhead	8	31	36	60	110	210
Ring-necked Duck		7	20	56	30	166
Lesser Scaup	4	2	4	14		8
Hooded Merganser	2					
Barrow's Goldeneye	2					
Ruddy Duck	2	7	2	1	4	14

Geese

The Mid-winter waterfowl aerial survey was not conducted in 1997. There is 30 years worth of data that has seen little use. Lack of use of the data, the number of flights per year needed, safety issues and funding were determining factors to discontinue the flights. Should the need for this data arise, flights will be resumed.

Due to weather conditions during the time frame needed for pair counts, no flights were attempted.

Brood count was flown on June 2, with 194 goslings counted. This was a 31% decrease from 1996. Water level at Ninepipe was very good.

Volunteer Linda Schure counted 200 geese on Ninepipe on June 25.

4. Marsh and Water Birds

Common marsh and water birds include: double-crested cormorants, great blue heron, white pelican, western and red-necked grebes, and American coots. A great egret was again observed at Ninepipe during late May and early June. A total of 12 pelicans were observed during the brood count on July 29.

A red-throated loon was seen in the fall. This was the ninth sighting for the State of Montana.

Grebe nesting was hampered by rising water levels during May. Thirty-three red-necked grebes were counted during the pair count on May 22. Two flooded grebe nests were also observed. Only 4 western grebes were counted at this time. Red-necked and western grebes were counted on all but one of the six Ninepipe roadside survey. See Table 3. Over 30 juvenile western grebes and 5 juvenile red-necked grebes were observed during the brood count. One Clark's grebe was observed on June 22. Also observed throughout the summer were pied-billed grebe and eared grebe.

Great blue herons first nested in trees on the west side of Ninepipe NWR in 1969. They moved here from the river as a large colony with about 60 nests. Cormorants initiated within the existing colony in 1974 with a single nest and both species increased steadily to well over 100 nests and 200 young per year. The herons have dropped back to about their starting number between 50 and 60 nests and about 100 young and remain in the range.

Herons raise an average of 1.5 to 2 young per nest. Cormorants have 2 to 2.5. Both species may have up to five young in the nest in a good season with favorable spring weather and good fishing.

Males of both species arrive first and establish nest sites and display for mates. Herons arrive in March and establish pair bonds and incubate during April and May and young leave the nest in May through June. Cormorants arrive in April and May, incubate through May and June and have young in the nest well into August.

Both species migrate when the reservoir freezes over. Herons go just far enough south to find good open water or may stay around if weather is mild. Cormorants migrate to the west or gulf coasts.

Nest trees can be seen from the Joint viewing site but these species are best viewed from the west side of the refuge. Islands are off limits to visitors even if they are exposed by low water.

Double-crested cormorant and great-blue heron nesting was observed by volunteer Linda Schure. Marcy Bishop, who has studied these colonies since 1974, retired from the Fish and Wildlife Service and was not able to continue the survey. Cormorant fledgling was early this year so only juveniles were counted on the July 7 count. A total of 197 juvenile cormorants were counted out of approximately 72 nests.

A total of 34 juvenile herons were counted out of approximately 28 nests. Foliage in some areas was too thick to see the young.

5. Shorebirds, Gulls, Terns and Allied Species

Heavy winter snows and a rainy spring resulted in high water levels at Ninepipe Reservoir. Mud flats were flooded and the only shorebirds recorded were killdeer, spotted sandpiper and common snipe.

The gull islands were checked on June 17, with 275 nests counted on the large island and chicks of all sizes still on the island. California gulls colonized, expanding their nesting and have colonized several more islands in the reservoir. For gull numbers recorded on the roadside surveys, see Table 3. Four Franklin's gulls were seen on June 22.

Terns were seen throughout the summer with 11 Forester's terns observed on a shallow island and 2 pairs of Caspian terns, with one nest, all observed on May 22. On June 17, 2 adult Caspian terns and 4 juveniles were spotted on the islands near the Montana Department of Fish, Wildlife, and Parks headquarters and 18 adult foresters terns with an estimated 12 to 16 nests were observed in the bulrush on the south end of the reservoir. On June 25, adult Forester's terns were observed feeding on the south end but no nests were observed. Black terns were only observed twice at Ninepipe. For survey sighting of terns, see Table 3.

Table 3. Water birds, shorebirds, waterfowl, gulls, terns, and raptors on survey route at Ninepipe National Wildlife Refuge 1997

Species	May 24	May 31	June 6	June 16	June 22	June 24
Pied-billed Grebe		1	1			
Red-necked Grebe	6	11	8		10	14
Eared Grebe			2			1
Western Grebe	10	93	131	138	100+	100+
Double-crested Cormorant	14	+	+	120	45	80
Great Blue Heron	26	+	+	30	25	64
Great Egret		1	1			
Canada Goose	36	+	150	142	200+	146
Turkey Vulture				1		
Osprey	2		2			1
Bald Eagle					1	
Northern Harrier	2	1	1			2
Red-tailed Hawk		1				1
American Kestrel	1		1	2		
Ring-necked Pheasant	4	2	2	1		2
American Coot	16	23	26	15	30	14
Killdeer	3	10	4	6	10	12
Spotted Sandpiper		1	1			1
Common Snipe	2		2	1	2	6
Wilson's Phalarope						1
Franklin's Gull					4	
Ring-billed Gull	1000	+	+	+	+	+
California Gull	50	+	+	+	+	+
Caspian Tern				2	2	2
Forster's Tern			14	14	10	14
Black Tern			1		2	
Great Horned Owl					2	14
Black Swift						3

6. Raptors

On April 22, 2 osprey were observed on the nesting platform and an immature golden eagle was observed in the heronry willows. The osprey were observed again on the nesting platform on May 22.

Great-horned and short-eared owls also nest on Ninepipe.

Common wintering raptors in the Ninepipe area included: bald eagles, northern harriers, red-tailed hawks, and rough-legged hawks with 28, 33, 60 and 74 respectively counted on the Christmas bird count. Also observed were golden eagle (1), sharp-shinned hawk (2), Cooper's hawk (1), northern goshawk (2), American kestrel (7), and prairie falcon(3).

Officer Kyle Todd and Special Agent Rick Branzell responded to a report of the killing of rough legged hawks. Chad Olsen, a graduate student at the University of Montana, reported finding 18 dead rough-legged hawks in the valley this winter. He reported one shooting to the FWS. A man was apprehended by federal officers and forfeited a $650 bond for violating the U.S. Migratory Bird Treaty Act.

7. Other Migratory Birds

Charles and Shirley Keller recorded other species of migratory birds encountered on their shorebird and waterfowl surveys around Ninepipe. The results are listed in Table 4.

Table 4. Neotropical Migratory Birds on Survey Route at Ninepipe National Wildlife Refuge 1997

Species	May 24	May 31	June 6	June 16	June 22	June 24
Northern Flicker	1					
Western Kingbird	2		1			
Eastern Kingbird	1		3	3	4	3
Tree Swallow	36	10	4	4	6	8
Northern Rough-winged Swallow			2			4
Cliff Swallow		8				
Barn Swallow	16	6	10	10	10	20
Black-billed Magpie	4	4	2	8	4	6
Common Raven			2	1	3	
American Robin	2			2	4	2
European Starling	2					4
Common Yellow Throat						4
Yellow Warbler			1			
Vesper Sparrow	1					
Savannah Sparrow			1			
Lincoln's Sparrow	1					
White-crowned Sparrow	2					
Red-winged Blackbird	8	6	10	14	8	10
Yellow-headed Blackbird	6	8	14	10	44	14
Brewer's Blackbird	6	4		6		8
Western Meadowlark	5	6	10	4	40	6
House Finch					1	
Mourning Dove			1			

8. Game Mammals

Nothing to report.

9. Marine Mammals

Nothing to report.

10. Other Resident Wildlife

Deer were occasionally seen at Ninepipe. Ring-neck pheasants are common in the Ninepipe area with 118 tallied on the Christmas bird count.

11. Fisheries

The Ninepipe fishery is managed by the Confederated Salish and Kootenai Tribes. The primary fishery is largemouth bass which were introduced in 1932. Pumpkinseed sunfish were introduced in 1926 and yellow perch were introduced in 1931.

12. Wildlife Propagation and Stocking

Nothing to report.

13. Surplus Animal Disposal

Nothing to report.

14. Scientific Collections

Nothing to report.

15. Animal Control

Nothing to report.

16. Marking and Banding

Nothing to report.

17. Disease Prevention and Control

Nothing to report.

H. PUBLIC USE

1. General

Visitation for Ninepipe was estimated at 18,300, exclusive of the public roads crossing portions of refuge lands. This is a 14% decrease from 1996 visitation numbers.

Table 5. Visitors/hours at Ninepipe NWR for 1988 through 1997.

Year	Fishing		Wildlife Observation		Education		TOTAL	
	Visitors	Hours	Visitors	Hours	Visitors	Hours	Visitors	Hours
1988	2,000	6,000	1,400	2,000	500	900	3,900	8,900
1989	2,600	6,800	3,000	4,000	200	500	5,400	11,300
1990	2,200	6,800	3,000	4,000	200	500	5,400	11,300
1991	3,100	9,300	3,500	7,000	300	900	6,900	16,200
1992	3,000	7,500	4,2000	7,500	350	1,000	7,500	16,000
1993	3,500	8,800	4,500	8,100	300	800	8,300	17,700
1994	3,000	7,500	5,500	9,900	320	850	8,820	18,250
1995	6,000	15,000	10,000	18,000	320	8,700	16,320	32,700
1996	7,000	17,500	14,000	25,200	250	700	21,250	43,400
1997	5,000	12,500	14,000	25,200	300	800	18,300	36,000

Montana Department of Transportation 1997 traffic counters determined that approximately 3,460,000 vehicles traveled Highways 93 and 212 during the year in the area where these roads go through Ninepipe. This is about a 17% increase from 1996. The average daily travel in the area during the summer was 8,571 vehicles, close to the 1995 daily average of 8,380. The year-long average was 6,592 vehicles a day.

The National Forest Conference included Ninepipe as part of their tour on "Building Sustainable Communities and Partnerships." About 50 people attended, including the Bureau of Land Management Assistant Director, the Director of Mexico's National Parks and reality specialists from the Washington Office of the US Forest Service.

Zmedia film crew at Ninepipe NWR for All Bird TV. DW 6/97

Zmedia, Inc. received a Special Use Permit to video wildlife, particularly migratory birds, on Ninepipe National Wildlife Refuge, as well as on Pablo NWR, the Bison Range and the Waterfowl Production Areas. This will become part of a Discovery Channel/Animal Planet series called "Winging It." Refuge Manager David Wiseman assisted the film crew and accompanied the field work to administer the Special Use Permit.

2. Outdoor Classrooms - Students

Registered school groups that engaged in educational activities at Ninepipe totaled 82, many using the area for bird observation or wetland studies. These included University of Montana's Field Station at Yellow Bay and the University of Idaho's Ecology Field Trip. Additional unscheduled schools and University classes also used Ninepipe for field trips.

3. Outdoor Classrooms - Teachers

Teacher use is included in the summary above.

4. Interpretive Foot Trails

Nothing to report.

5. Interpretive Tour Routes

Nothing to report.

6. Interpretive Exhibits\Demonstrations

Interpretive signs were erected along the trail at the Joint Viewing Site. Interpretive text was supplied by Marcy Bishop when she was ORP for the complex. There is concern that the signs will not stand up well to weather as they are painted on wood panels without a sealer.

Waterfowl interpretive sign at Ninepipe Joint Viewing Area. PK 1997

A kiosk, with changeable panels, located at a good viewing area just off Highway 93, presented a seasonal interpretive message to visitors. Fishing regulations, maps and bird lists were stocked at Refuge entrance points in season.

7. Other Interpretive Programs

Nothing to report.

8. Hunting

Ninepipe is not open to hunting. The Refuge and its waterfowl production contributes to the quality of hunting on surrounding State, Tribal and private lands and provides a much needed sanctuary for feeding and resting waterfowl during hunting season and for the balance of the year.

The Refuge also provides an important core of winter cover and sanctuary for ring-necked pheasants. Good pheasant and gray partridge populations occur on and near the refuge.

9. Fishing

Fishing has been one of the major visitor attractions at Ninepipe for a number of years. The entire Refuge was open to ice fishing after waterfowl season closure in January. Initial reports from fishers told of good catches of perch. Beginning March 1, most of the shoreline is closed to fishing due to the waterfowl nesting season. The entire Refuge reopened for fishing on July 15 and parts closed again during upland game bird and waterfowl seasons. An estimated 5,050 people fished the Refuge during the year.

10. Trapping

Nothing to report.

11. Wildlife Observation

Bird watching has become very popular. Audubon Clubs as well as individual birders and university groups used the area regularly.

The Flathead Audubon Chapter conducted the annual Christmas Count which centers on Ninepipe. Dan Casey of Kalispell organized the count this year. (See Section E-4, Volunteer Program, for details.)

12. Other Wildlife Oriented Recreation

The Refuge was a popular spot for photographers, both amateur and professional, because of its easy accessibility from two highways. Pull-outs along Highway 93 were also favorite spots for sunset photos across the Refuge.

13. Camping

Nothing to report.

14. Picnicking

Nothing to report.

15. Off-Road

Nothing to report.

16. Other Non-Wildlife

Nothing to report.

17. Law Enforcement

Refuge Officers from the National Bison Range and Tribal wardens from the Salish and Kootenai Tribes patrolled Ninepipe throughout the year as time permitted. Tribal Wardens were active during the fishing season with Bison Range staff patrolling during waterfowl and pheasant season. Ninepipe was posted for closure just prior to waterfowl season.

No citations were issued for violations at Ninepipe in 1997.

18. Cooperating Associations

A number of wetland and waterfowl-oriented publications which are applicable to this area are sold through the Glacier Natural History Association book outlet.

19. Concessions

Nothing to report.

I. EQUIPMENT AND FACILITIES

1. New Construction

Nothing to report.

2. Rehabilitation

Nothing to report.

3. Maintenance

Clary removed a culvert at Ninepipe NWR in response to problems with high waters from snow melt (May). During September, maintenance staff built and/or repaired fence. Staff removed about 30-50 non-native Russian olive trees from Ninepipe and Pablo.

4. Equipment Utilization and Replacement

Nothing to report

5. Communications Systems

Nothing to report.

6. Computer Systems

Nothing to report.

7. Energy Conservation

Nothing to report.

8. Other

Nothing to report.

J. OTHER ITEMS

1. Cooperative Programs

Lynn Clark, NBR bio.-tech. met with Ben Adams, Flathead Irrigation Project, to discuss irrigation and water levels at Ninepipe NWR.

National Bison Range manager, Dave Wiseman, met with Joe Ball, leader of the Montana Wildlife Cooperative Unit, about a research special use permit for the Wetland Management District, Pablo NWR, and Ninepipe NWR.

2. Other Economic Uses

Nothing to report.

3. Items of Interest

Nothing to report.

4. Credits

Lynn Clark - Biological work and wrote biological information.
Pat Jamieson - Collected data and wrote public use information.
Terri Middlemist - Word processing, assembly
Bill West - Section F, Habitat Management, editing

K. FEEDBACK

See Narrative Report for the National Bison Range.

PABLO NATIONAL WILDLIFE REFUGE

PABLO, MONTANA

ANNUAL NARRATIVE REPORT

Calendar Year 1997

U.S. Department of the Interior
Fish and Wildlife Service
NATIONAL WILDLIFE REFUGE SYSTEM

REVIEWS AND APPROVALS

PABLO NATIONAL WILDLIFE REFUGE

Pablo, Montana

National Bison Range Complex
Moiese, Montana

ANNUAL NARRATIVE REPORT

Calendar Year 1997

Refuge Manager	Date	Refuge Supervisor Review	Date
Regional Office Approval	Date		

Introduction

Pablo National Wildlife Refuge is located on the Flathead Indian Reservation two miles northwest of Pablo, Montana, and approximately 18 miles north of the National Bison Range. It is a 2,542 acre "easement" waterfowl refuge administered by National Bison Range personnel.

The refuge is located on Trust lands of the Confederated Salish and Kootenai Tribes. Lands within the refuge boundary were first withdrawn for an irrigation reservoir as part of the Flathead Project in 1910. The wildlife refuge was established by Executive Order on the same withdrawal in 1921, subject to reservoir uses. A 1948 Act of Congress reimbursed the Tribes $400,000 for all past and future uses of certain reservation lands for physical works and facilities of the Flathead Project irrigation and power systems, and for wildlife refuges (Ninepipe and Pablo NWR's). The payment included $68,712 for the easement at Pablo Refuge.

The 1948 Act of Congress also stated that the Tribes "shall have the right to use such Tribal lands, and to grant leases or concessions thereon, for any and all purposes not inconsistent with such permanent easement." The phrase "not inconsistent with such permanent easement" has been the subject of considerable controversy, correspondence and negotiation over the years, but FWS has been able to exert some influence on management of the refuge for waterfowl purposes.

The reservoir contains 1,850 acres at full pool. The only FWS control of water levels comes through cooperation with the BIA Flathead Irrigation Project. In the case of conflicts, wildlife is a secondary use to irrigation because of wording in the 1921 Executive Order.

The 692 acres of upland surrounding the reservoir within the refuge is used by Tribal members for farming and grazing under permits issued by the BIA. FWS attempts to provide for wildlife habitat on these areas through Memorandums of Understanding with the BIA and Tribes.

Approximately 600 acres of adjoining State Game Management Area lands add to the overall wildlife values of the Pablo complex.

TABLE OF CONTENTS

3. Public Participation

See National Bison Range Annual Narrative 1997, Planning, Section D-1.

4. Compliance with Environmental and Cultural Resource Mandates

Nothing to report.

5. Research and Investigations

Wiseman met with Joe Ball, leader of Montana Wildlife Coop Unit, about a research special use permit for the Wetland Management District, Pablo NWR, and Ninepipe NWR.

Nest Success of Upland Nesting Ducks in Relation to Predator Removal - Montana Cooperative Wildlife Research Unit, Missoula, Montana.

Nest searches were conducted 2 times per year on 66 acres in 1997 when spring grazing management prohibited nest searching.

Mayfield nest success estimate for all ducks of 7.0% and 23 nests found and 13.5% nest success for mallards and 7 nests found. There was a 0.07 density of nest per acre for all ducks and 0.02 for mallards.

Nest searches from 1986 to 1997 were conducted as part of a long-term study analyzing the effects of skunk removal on nest success. Skunks were trapped and removed from the Ninepipe area from 1989 to 1994. From 1995 to 1997, skunks trapped in the Ninepipe area were marked and released. Before skunk removal (1986-1988), Mayfield nest success of all ducks averaged 21.3% in the Ninepipe area and 22.5% in the Pablo area. During skunk removal (1989-1994), duck nest success was far higher in the Ninepipe area (50.5%) relative to the Pablo area (21.4%). After skunk removal (1995-1997), duck nest success was again similar in the Ninepipe (9.0%) and Pablo (9/0%) areas.

Owl Research Institute, Inc. - Denver W. Holt, Missoula, Montana

Observations have been made on long-eared owls for a number of years. The owls were banded and data gathered regarding habitat selection, breeding biology, migration, molt, hormones, diet, and mating system.

Monitoring of small mammals is done at both Ninepipe and Pablo NWR.

Collection and analyzation on Ring-billed and California Gull pellets to determine diet, in response to concerns of the gulls eating waterfowl and other bird species eggs, has been done. Data shows they mostly eat voles, but insects, and worms are important also. Few bird eggs or nestlings were found.

6. Other

Nothing to report.

E. ADMINISTRATION

1. Personnel

Pablo NWR is administered from the National Bison Range, and most administrative information is covered in the Bison Range Narrative Report.

2. Youth Programs

Nothing to report.

3. Manpower Programs

Nothing to report.

4. Volunteer Program

Volunteers Charles and Shirley Keller returned again this year to continue bird surveys at Ninepipe and Pablo NWRs.

5. Funding

Nothing to report.

6. Safety

Nothing to report.

7. Technical Assistance

Cindy Cesina from the Lake County Pathways Project talked with West and Jamieson about the proposed Bike Trail from Polson to Pablo. It is still in the early planning stages. One of the proposed routes would be along the road through the east side of Pablo NWR. West discussed the possibility that a bike route might not be compatible.

Clark met with Ben Adams, Flathead Irrigation Project, to discuss irrigation and water levels at Ninepipe NWR, to maximize nesting and production within the constraints of irrigation needs.

Pablo include green-winged teal, American wigeon, redhead, lesser scaup, ring-necked duck, northern pintail and northern shoveler. Cormorants and herons nest on the rock island and in the willows along the west shore. A bald eagle successfully nests on the refuge. Common loons, terns, and shorebirds are also found. Coyotes, white-tailed deer and raccoons are occasionally observed.

2. Endangered and/or Threatened Species

Two adult bald eagles were seen around the nest site during the duck pair count on June 4th. The eagle nest is monitored by the Salish and Kootenai tribal biologists. Two eagles were fledged from the nest this year. The trumpeter swans released in 1996 did not return to Pablo reservoir. There were no swans transplanted to Pablo in 1997.

3. Waterfowl

Ducks

The duck pair count was run on June 4th. A total of 357 pairs were tallied with 289 on the main reservoir and 65 on the Duck's Unlimited units. The brood count was conducted on August 4th. Seventeen broods were counted with an average brood size of 3.7. Nest success was 7%. Results are shown in Tables 2 and 3. The total number of pairs observed (357) continued the downward trend started in 1995. Pair numbers have not been this low since 1988. Average brood size and hen success were the lowest recorded in the last ten years. These factors combined for a record low production rate on Pablo of 65 ducks. A greater scaup was observed by volunteers Charles and Shirley Keller on May 26th.

TABLE 2. 1997 Duck Production Pablo National Wildlife Refuge (pairs X .07 production X 3.7 brood size X .7 brood survival production)

SPECIES	NUMBER OF BREEDING PAIRS	PRODUCTION
Mallard	197	36
Wigeon	7	1
Gadwall	22	4
Redhead	2	0
Northern Shoveler	1	0
Lesser Scaup	2	0
Cinnamon Teal	10	2
Blue-winged Teal	13	2
Green-winged Teal	1	0
Ring-necked Duck	6	1
Pintail	9	2
Hooded Merganser	1	0
Common Merganser	12	2
Canvasback	3	1
Bufflehead	1	0
Unknown	2	0
Total	289	51

TABLE 3. 1997 Duck Production
Ducks Unlimited Units at Pablo NWR
(pairs X .07 production X 3.7 brood size X .7 brood survival production)

SPECIES	NUMBER OF BREEDING PAIRS	ESTIMATED PRODUCTION
Mallard	40	7
Gadwall	8	1
Cinnamon Teal	1	0
Blue-winged Teal	3	1
Wood Duck	1	0
Canvasback	9	2
Redhead	5	1
Common Merganser	1	0
Total	68	12

Geese

The mid-winter waterfowl survey was canceled due to bad weather which prevented flying.

4. Marsh and Water Birds

Soras are often heard on the subimpoundments. Great blue herons and double crested cormorants nest on the offshore island and the willows on the west side of the reservoir. Coots are common from spring until freeze up. Loons are present during the spring and summer. One loon was observed during the duck pair count on June 4th. Nesting was not documented. Pelicans are sporadically present. A flock of 64 were observed on June 8th. Western grebes are common with over 30 observed on May 26th. Production was not documented and varies greatly from year to year due to fluctuating water levels during the nesting season. Red-necked grebes are present in lesser numbers. Twelve pairs were tallied on June 4th.

Marcy Bishop retired this year and Volunteer Linda Schure continued Marcy's documentation of nesting by great blue herons and double crested cormorants on Ninepipe National Wildlife Refuge but Pablo was not counted this year.

5. Shorebirds, Gulls, Terns and Allied Species

Shorebirds observed in 1997 included: 7 Wilson's phalarope and 12 long-billed dowitchers observed during the duck pair count on June 4th and killdeer, spotted sandpiper, long-billed curlews and snipe observed by Keller's on their survey routes. Ring-billed gulls were common . A Bonaparte's gull was observed on May 26th. Formal shorebird, gull and tern surveys are not conducted so sightings are not a complete list of species, but are just those observed during the spring duck pair counts and the summer duck brood counts, This year volunteers Charles and Shirley Keller ran three additional transects along a set route around Pablo. Additional sightings were recorded on these routes. See table 4.

Lindy Garner and Tracy Shutt on Pablo NWR during a brood count. PJ 1997

Table 4. Bird Species Observed by Volunteers Charles and Shirley Keller at Pablo NWR 1997.

Species	May 26	June 8	June 22	Total
Common Loon	1	1		2
Red-necked Grebe		6	6	12
Western Grebe	35	6	30	71
Am. White Pelican		64		64
Dbl. Crested Corm.	40	32	15	87
Great Blue Heron	6	14	8	28
Canada Goose	120	110	42	272
Osprey	1	1		2
Bald Eagle	1			1
Northern Harrier	2	1		3
Red-tailed Hawk	1	2		3
American Kestrel		2		2
Ring-necked Pheas.	3	15		18
Sora		1		1
American Coot	6	12	6	24
Killdeer	3	10	4	17
Spotted Sandpiper	3			3
Long-billed Curlew		2		2
Common Snipe	2	8		10
Bonaparte's Gull	1			1
Ring-billed Gull	30	46	8	84
Forester's Tern	4			4
Mourning Dove	3	8	1	12
Great-horned Owl		1		1
Short-eared Owl	1			1
Northern Flicker	1	3		4
West. Wood Peewee	1	4		5
Willow Flycatcher		3		3
Cordill. Flycatcher	1			1
Western Kingbird		1		1
Eastern Kingbird	1	8	3	12
Tree Swallow	6	16		22
Violet Green Swal.	3			3
N. R. Winged Swal.		2		2
Bank Swallow		45	60	105
Cliff Swallow	60	45		105
Barn Swallow	10	20	8	38
Black billed Magpie	4	16	4	24
Common Raven	2	8		10
Mountain Bluebird		2		2
American Robin	6	21	1	28
Gray Catbird		1		1
Cedar Waxwing		5		5
European Starling	4	28	4	36
Solitary Vireo	1			1
Warbling Vireo	1	1		2
Red-eyed Vireo		1		1
Yellow Warbler	2	8	2	12
C. Yellowthroat	3	6	1	10
Lazuli Bunting		1		1
Vesper Sparrow	1			1
Savannah Sparrow		4		4
Song Sparrow	2	1		3
R.-winged Blackbird	15	38		53
W. Meadowlark	6	16	2	24

Yellowheaded BB	6	14		20
Brewer's Blackbird	4			4
Brn.headed Cowbird		11		11
Bullock's Oriole		4		4
Am. Goldfinch		2		2

6. Raptors

Two eagles were fledged form the eagle nest. Other raptors that utilize Pablo Refuge include; osprey, red-tailed hawks, northern harriers, American kestrel, short-eared owls, and great-horned owls. Winter residents include rough-legged hawks, and occasional snowy owls.

7. Other Migratory Birds

The neotropical migratory bird survey started in 1995 was run three times this year. A total of 53 species were recorded. The most common species were European starling, red-winged blackbird, cliff swallow, and American robin. There was an unconfirmed but fairly reliable report of a black-billed cuckoo at Pablo throughout the summer. For species observed by volunteers Charles and Shirley Keller see table 4.

8. Game Mammals

A white-tailed deer was seen on the refuge on June 4th.

9. Marine Mammals

Nothing to report.

10. Other Resident Wildlife

Ring-necked pheasant and Hungarian partridge are common on the refuge. Coyotes were observed on several occasions.

11. Fisheries Resources

Surveys by Tribal Fisheries biologists have identified populations of yellow perch, pumpkinseeds, black bullheads, longnose and large-scale suckers, peamouth, lake whitefish and largemouth bass in Pablo Reservoir.

12. Wildlife Propagation and Stocking

Nothing to report.

13. Surplus Animal Disposal

Nothing to report.

14. Scientific Collections

Nothing to report.

15. Animal Control

Nothing to report.

16. Marking and Banding

Nothing to report.

17. Disease Prevention and Control

Nothing to report.

H. PUBLIC USE

1. General

Visitation to the Refuge was estimated at 6,050, with most use coming from fishermen and bird watchers.

Cindy Cesina, from the Lake County Pathways Project, talked with Bill West and Pat Jamieson about a proposed Bike Trail from Polson to Pablo. One of the proposed routes was along the road through the east side of Pablo NWR. She was informed that the Confederated Salish and Kootenai Tribe (which own the land) and FWS Realty would need to be consulted to see if the proposed activity was compatible. No bike route was ever developed.

Zmedia, Inc. received a Special Use Permit to video wildlife, particularly migratory birds, on Ninepipe National Wildlife Refuge, as well as on Pablo NWR, the Bison Range and the Waterfowl Production Areas. This will become part of a Discovery Channel/Animal Planet series called "Winging It."

2. Outdoor Classrooms - Students

Nothing to report.

3. Outdoor Classrooms - Teachers

Nothing to report.

4. Interpretive Foot Trails

Nothing to report.

5. Interpretive Tour Routes

Nothing to report.

6. Interpretive Exhibits/Domonstrations

Nothing to report.

7. Other Interpretive Programs

Nothing to report.

8. Hunting

There was no hunting allowed within the Refuge boundary. Some off refuge waterfowl hunting occurred along the boundary, but pressure and success were generally low. There were reports that a confusing boundary along the west boundary fence caused hunters to inadvertently enter the Refuge. The odd shape of the metes and bounds fenced boundary and improperly located fencing helped cause this problem.

9. Fishing

Fishing activity at Pablo was primarily by local ice fisherman, with yellow perch the predominant species taken. The entire refuge was open to ice fishing after waterfowl season closure on January. Initial reports from fishermen told of good catches of perch. Beginning March 1, most of the shoreline is closed to fishing.

Ice fishing opened on Ninepipe and Pablo NWRs on January 6th, at the close of goose hunting season. Initial reports from fishers tell of good catches of perch.

10. Trapping

Nothing to report.

11. Wildlife Observation

Birding has been a dominant non-consumptive public use at Pablo and a small core group of local citizens regularly visited the refuge throughout the year except during waterfowl hunting and fire closures. Short-eared owls and other raptors, nesting cormorants and herons and the spring and fall shorebird and loon migrations were the major attractions. Snowy owls were especially visible in March, with a one-day high of 12 birds observed.

12. Other Wildlife Oriented Recreation

Nothing to report.

13. Camping

Nothing to report.

14. Picnicking

Nothing to report.

15. Off-Road Vechicle Use

Nothing to report.

16. Other Non-Wildlife Oriented Recreation

Nothing to report.

17. Law Enforcement

Refuge boundaries were patrolled by Refuge Officers on opening weekends of hunting seasons and occasionally thereafter, with no violations noted. The Refuge was also patrolled during the summer for fishing and fall hunting by Tribal and State Wardens.

18. Cooperating Association

A number of wetland and waterfowl-oriented publications which are applicable to this area are sold through the Glacier Natural History Association book outlet at the National Bison Range Visitor Center.

19. Concessions

Nothing to report.

I. EQUIPMENT AND FACILITIES

1. New Construction

Nothing to report.

2. Rehabilitation

Nothing to report.

3. Major Maintenance

The dike was cleared of Russian Olive in June.

A contractor started a survey of the boundary of Pablo NWR on September 12. There has been some debate about the exact placement of the boundary and use of adjacent lands.

4. Equipment Utilization and Replacement

Nothing to report.

5. Communications Systems

Nothing to report.

6. Computer Systems

Nothing to report.

7. Energy Conservation

Nothing to report.

8. Other

Nothing to report.

J. OTHER ITEMS

1. Cooperative Programs

Refuge Manager, Dave Wiseman, met with Joe Ball, leader of the Montana Wildlife Cooperative Unit, about a research Special Use Permit for the Wetland Management District, Pablo NWR, and Ninepipe NWR.

2. Other Economic Uses

Nothing to report.

3. Items of Interest

Nothing to report.

4. Credits

Lynn Clark - Biological work, and writing of biological sections
Pat Jamieson - Public use information collection and writing
Terri Middlemist - word processing, assembly
Bill West - Section F, Habitat Management, editing

K. FEEDBACK

See National Bison Range report.